



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,967	03/06/2006	Shuhei Nishiyama	2003.012545	1985
88597	7590	03/08/2010		
Mr. Shuhei Nishiyama 3-10-8-203 Ainokawa Ichikawa, Chiba, 272-0143 JAPAN			EXAMINER HOTELLING, HAROLD A	
			ART UNIT	PAPER NUMBER
			2164	
			NOTIFICATION DATE	DELIVERY MODE
			03/08/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

shunishi@s3.dion.ne.jp
nishiyama@intermirage.co.jp
shunishi@yahoo.co.jp

Office Action Summary	Application No. 10/542,967	Applicant(s) NISHIYAMA, SHUHEI	
	Examiner HAROLD A. HOTELLING	Art Unit 2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 12, 13, 15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 12, 13, 15, and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendments

The applicant submitted claim amendments on August 24, 2009.

Status of Claims

Claims 1, 12, 13, 15, and 16 are rejected under 35 U.S.C. 102(b).

35 U.S.C. §102 rejection

The following is a quotation of the appropriate paragraph of 35 U.S.C. 102 that forms the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 12, 13, 15, and 16 (U.S. filing date: July 21, 2005) are rejected under 35 U.S.C. 102(b) as anticipated by Draper et al. (U.S. Patent number 5,924,096) (issued on July 13, 1999) (hereafter “Draper”). Draper incorporates by reference:

- U.S. Patent number 6,192,365 (hereafter “Draper365”)
- U.S. Patent number 5,991,771 (hereafter “Draper771”)

With respect to independent claim 1, Draper teaches **[a] distributed database system** (column 6, lines 15 – 16: “FIG. 5 illustrates several methods of the present invention for managing a distributed database of objects, . . .”) **comprising:**

plurality of administration domains, wherein each of said administration

Art Unit: 2164

domains comprising:

one or more database administration apparatuses, which administers database allocated on said database administration apparatuses themselves (column 3, lines 1 – 4: “The index can be used to efficiently create a list of recent events, which can then be sent to a master node to obtain the information needed to update a local cache of database objects or records.”) **or client computers wherein client computers are comprising: at least one or more CPU, and main memories, and one or more network Information cards; on the network in said administration domain** (Figure 6 and column 8, lines 11 – 12: “The system 600 also includes two client caches 608, 610, which reside on clients 110.”);

a topology administration server (column 8, lines 3 – 5: “The system 600 includes a master system 602”) **which administers information of said database management systems such as data dictionary, or locking status, or referential integrity status, or physical location of rows divided horizontally to the tables including sited in the databases in the other domains, or physical location of columns divided vertically to the tables including sited in the databases in the other domains, or multi transactions commit counter, or meta data of said database management systems** (column 1, line 56 – 59: “One synchronization method sends a list of cached database object identifiers and corresponding timestamps or sequence numbers from the caching node to a master node which holds a master replica.”), **or meta data of file systems on which said database management systems exist;**

and said client computers, which are allocated on the network beneath said database administration apparatuses administered with said topology administration server (column 8, lines 11 – 12: “The system 600 also includes two client caches 608, 610, which reside on clients 110.”) (column 8, lines 3 – 5: “The system 600 includes a master system 602”);

wherein said topology administration servers exchange their topology information each other (column 8, lines 3 – 5: “The system 600 includes a master system 602 denoted ‘A’ and a second master system 604 denoted ‘B’.”),

and database administration apparatuses and said computers can be real machine or can be virtual machine also, and said topology administration server comprises:

storage for topology information, which stores topology information, including certain information correlating a database object identifier, which is information for identifying a database object administered by said database administration apparatus, with an identifier of a database administration apparatus for identifying a database administration apparatus administering the database object (column 1, line 56 – 59: “One synchronization method sends a list of cached database object identifiers and corresponding timestamps or sequence numbers from the caching node to a master node which holds a master replica.”);

a receiver for a cache request, which receives a cache request including said database object identifier transmitted from said client computers for caching a database object identified by said database object identifiers (this cache request

Art Unit: 2164

is necessary for effecting the division of tasks between caches described in column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”);

an acquisition unit, for an identifier of a database administration apparatus, which acquires a corresponding identifier of a database administration apparatus from said storage for topology information based on the database object identifier included in the cache request received by said receiver for a cache request (acquiring this identifier is necessary for coordinating the two masters described in column 8, lines 3 – 5: “The system 600 includes a master system 602 denoted ‘A’ and a second master system 604 denoted ‘B’.”);

a transferring unit for a cache request, which transfers said cache request to the database administration apparatus identified by the identifier of the database administration apparatus, in which said identifier is acquired by said acquisition unit for an identifier of a database administration apparatus (this transfer is necessary to effect the division of tasks between caches described in column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”);

a receiver for cache-completed information, which receives cache-completed information, which is information indicating caching of the database object to the computer; a cache updating unit for topology information, which updates the cache-complete information of topology information stored in the storage for topology information to the current status based on the cache-

Art Unit: 2164

completed information received by the receiver for cache-completed information; an exchanging unit for topology information, which exchanges topology information with the other topology administration server administrating the other administration domain communicable via network (necessary for coordinating the “system 600” described in column 8, lines 3 – 5: “The system 600 includes a master system 602 denoted ‘A’ and a second master system 604 denoted ‘B’.”);

said computer comprises: a transmitter for a cache request, which transfers a cache request (this transfer is necessary to effect the division of tasks between caches described in column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”),

a receiver for a database object, which receives the database object returned in accordance with the transmission of the cache request by said transmitter for a cache request (necessary to effect the division of tasks between caches described in column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”); **and**

a caching unit for a database object, which caches a database object received by the receiver for a database object (column 3, lines 1 – 4: “The index can be used to efficiently create a list of recent events, which can then be sent to a master node to obtain the information needed to update a local cache of database objects or records.”);

and said database management system comprises:

a receiver for a cache request, which receives the cache request transferred by the topology administration server (column 8, lines 46 – 50: “a cache site 608 or 610 can send a request to the master system 602 or 604 to get a list of the most recent events that occurred on data items 202 since the last time the cache made an inquiry. The cache's request can specify the event types that should be returned.”);

and a copy and transmission unit for a database object, which copies and transmits the database object in accordance with the cache request received by the receiver for a cache request (column 8, lines 50 – 54: “This allows, for example, one cache to add data items 202 to the cache each time an add event occurs while another cache may only update data items 202 in the cache when a modify event occurs.”).

With respect to dependent claim 10, Draper teaches **[t]he distributed database system according to claim 1,**

wherein said topology information correlates lock information relating to a lock, which is operated by a database object, with a database object identifier (Draper365, column 22, lines 35 – 36: “The NdrOdLock() function explicitly adds an exclusive or shared lock to an object using the object's DOID.”); **and**

said topology administration server comprises:

a receiver for lock-operation information, which receives the lock information, a lock updating unit for topology information, which updates lock

Art Unit: 2164

information of topology information, which is stored in the storage for topology information, to the current status based on the lock information received by the receiver for lock-operation information (Draper771, column 5, lines 41 – 44: “To prevent inconsistencies, access to each replica is by way of a target database object lock that serializes updates to the replica, and the updates are applied atomically.”).

With respect to dependent claim 12, Draper teaches **[t]he distributed database system according to claim 1, wherein said database administration apparatus comprises:**

a transmitter for an update-operation instruction, which transmits an update-operation instruction, which is an instruction for update-operation of a database object, to a client apparatus of a computer caching the database object upon executing the update-operation with respect to the database object held therein (column 3, lines 1 – 4: “The index can be used to efficiently create a list of recent events, which can then be sent to a master node to obtain the information needed to update a local cache of database objects or records.”); **and**

said computer comprises: a receiver for an update-operation instruction, which receives an update-operation instruction, and an update-operation unit for a database object, which updates the database object cached in the caching unit for a database object based on the update-operation instruction received by the receiver for an update-operation instruction (column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache

Art Unit: 2164

only changes the cache when a modify event occurs.”).

With respect to dependent claim 13, Draper teaches **[t]he distributed database system according to claim 1, wherein said database administration apparatus comprises:**

a receiver for update-operation information, which receives update-operation information relating to the update-operation on a database object, an update-operation unit, which executes the update-operation on the database object held therein based on the update-operation information received by the receiver for update-operation information, and a transmitter for an update-operation instruction, which transmits an update-operation instruction of a cached database object to a client apparatus of a computer caching the database object based on said update-operation information (column 3, lines 1 – 4: “The index can be used to efficiently create a list of recent events, which can then be sent to a master node to obtain the information needed to update a local cache of database objects or records.”); **and**

said computer comprises:

a transmitter for update-operation information, which transmits update-operation information, a receiver for an update-operation instruction, which transmits an update-operation instruction, and an update-operation unit for a database object, which updates the database object cached by the caching unit for a database object based on the update-operation instruction received by the

Art Unit: 2164

receiver for an update-operation instruction (column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”).

With respect to dependent claim 15, Draper teaches **[t]he distributed database system according to claim 10, wherein said database administration apparatus comprises:**

a transmitter for an update-operation instruction, which transmits an update-operation instruction, which is an instruction for update-operation of a database object, to a client apparatus of a computer caching the database object upon executing the update-operation with respect to the database object held therein (column 3, lines 1 – 4: “The index can be used to efficiently create a list of recent events, which can then be sent to a master node to obtain the information needed to update a local cache of database objects or records.”); **and**

said computer comprises: a receiver for an update-operation instruction, which receives an update-operation instruction, and an update-operation unit for a database object, which updates the database object cached in the caching unit for a database object based on the update-operation instruction received by the receiver for an update-operation instruction (column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”).

With respect to dependent claim 16, Draper teaches **[t]he distributed database system according to claim 10, wherein said database administration apparatus comprises:**

a receiver for update-operation information, which receives update-operation information relating to the update-operation on a database object, an update-operation unit, which executes the update-operation on the database object held therein based on the update-operation information received by the receiver for update-operation information, and a transmitter for an update-operation instruction, which transmits an update-operation instruction of a cached database object to a client apparatus of a computer caching the database object based on said update-operation information (column 3, lines 1 – 4: “The index can be used to efficiently create a list of recent events, which can then be sent to a master node to obtain the information needed to update a local cache of database objects or records.”); and

said computer comprises:

a transmitter for update-operation information, which transmits update-operation information, a receiver for an update-operation instruction, which transmits an update-operation instruction, and an update-operation unit for a database object, which updates the database object cached by the caching unit for a database object based on the update-operation instruction received by the receiver for an update-operation instruction (column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache

Art Unit: 2164

only changes the cache when a modify event occurs.”).

Conclusion

The examiner notes that the applicant's remarks that were presented have been carefully and respectfully considered by the examiner, but they are not persuasive.

Accordingly, the Office Action has been made FINAL. See MPEP § 706.07(a). The applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harold A. Hotelling whose telephone number is (571) 270-1293. The examiner can normally be reached between 7:00 a.m. - 5:30 p.m. Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

Art Unit: 2164

supervisor, Charles Rones, can be reached at (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is (571) 270-2293.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Harold A. Hotelling
Examiner
Art Unit 2164

HAH
February 25, 2010
/H. A. H./
Examiner, Art Unit 2164

/Charles Rones/
Supervisory Patent Examiner, Art Unit 2164